

REMARKS

- (1) The Examiner has rejected claims 1, 11 and 18 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,428,597 to Satoh et al. considered with U.S. Patent 4,839,753 to Ide et al.
- (2) The Examiner has further rejected claims 2 and 12 under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. considered with Ide et al., and further in view of International Patent Application No. WO 00/16320 to Nishiuchi et al.
- (3) In addition, the Examiner has rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. considered with Ide et al., and further in view of U.S. Patent 6,344,939 to Oguro.
- (4) Furthermore, the Examiner has rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. considered with Ide et al., and further in view of U.S. Patent 5,589,995 to Saito et al.

Applicant acknowledges that the Examiner has allowed claims 4, 6-8, 13, 15-17, 19, 25 and 26.

(1) The Satoh et al. patent discloses a multi-layered optical disk with track and layer identification which is scanned by a single scanning device. It should be noted that there is no disclosure in Satoh et al. of how information is recorded in track on a layer and whether there is a first guard field at the

beginning of a data block and a second guard field at the end of the data block.

The Ide et al. patent discloses an information recording disk having a base plate and information recording layers provided on surfaces of the base plate and used to write or read information thereon (col. 1, lines 5-9). As indicated at col. 1, lines 38-43, the information layers are provided on opposite sides of the base plate and are individually accessed by separate magnetic heads. As noted at col. 2, line 54 to col. 3, line 30, information written on an information layer includes a first gap G1 provided with "4E" written thereon at 16 byte unit, a second gap G2 called a "write space gap" for signal writing on a data field DF, a third gap G3 called an "inner-record gap" having a predetermined length, and a fourth gap G4 having a length which varies with the velocity of the DD (direct drive) motor.

The subject invention concerns how the transmissivity of an upper information layer may affect the reading of the lower information layer. In particular, as described in the Substitute Specification on page 5, paragraph [0007], and shown in Fig. 6, prior art multi-layer record carriers included a recording unit block beginning with a preamble and ending with a postamble. A first guard field then precedes the preamble, and a second guard field follows the postamble. A gap is purposefully positioned between the second guard field of one recording unit block and the first guard field of an ensuing recording unit block. As now described on page 5, line 23 to page 6, line 12 (paragraph [0009],

the transmissivity of the upper layer differs in written areas (recording unit block) and in unwritten areas (gaps).

The subject invention seeks to reduce this difference in transmissivity by causing the first and second guard portions of succeeding data blocks to overlay one another thereby eliminating the gap (page 21, line 15 to page 22, line 14 (paragraphs [0048]-[0049])). This is shown in Fig. 7, wherein the upper recording scheme shows the prior art, while the lower recording scheme is in accordance with the subject invention. Note that the end position of second guard field G2 lies within the area of the succeeding first guard field G1 (or the end position of first guard field G1 lies within the area of the preceding second guard field G2). In claim 1, the limitation "said first and second guard fields have lengths such that an end position of said second guard field of a preceding data block in a track is located within an area of said first guard field of a succeeding data block in said track" is prefaced by the limitation "in at least an upper information layer of said at least two substantially parallel information layers," and therefore relates to succeeding data blocks **in a track in the same information layer**, and that the end of a second guard field at the end of one data block extends into the first guard field at the beginning of a succeeding data block, thereby eliminating the gap between data blocks.

In the current Office Action, the Examiner states "The ability of having a "guard" field prior to and subsequent to a data field is well known -as discussed with respect to figure 9 of Ide

et al. Note in particular the plurality of guard fields/gaps G1, G2 prior to DF, and G3, G4 subsequent to DF. Also note that both G3 and G4 of the prior DF are prior to the leading G1 field of the subsequent DF in this figure."

What the Examiner is observing is correct. However, that is not what is claimed in, for example claim 1. In particular, the relevant portion of claim 1 states "in at least an upper information layer of said at least two substantially parallel information layers, said first and second guard fields have lengths such that an end position of said second guard field of a preceding data block in a track is located within an area of said first guard field of a succeeding data block in said track" (emphasis added). This is contrary to Ide et al. in which end position of the second guard field of a preceding data block is located prior to, not within an area of, said first guard field of a succeeding data block. This is an important limitation in that, as described in the Substitute Specification on page 21, line 15 to page 22, line 14 (paragraphs [0048]-[0049]), the subject invention seeks to reduce differences in transmissivity by causing the first and second guard portions of succeeding data blocks to overlay one another thereby eliminating any gap.

(2) The Nishiuchi et al. reference discloses an optical information recording medium, method of manufacture thereof, and method of recording and reproduction, in which a plurality of information layers (2, 3) each have a sector structure in which a

data area (8, 12) is divided in the circumferential direction by a sector address (9, 13). The positions of the sector addresses (9, 13) of the respective information layers (2, 3) coincide in the circumferential direction.

Claim 2 includes the limitation "wherein the lengths of said first guard field and of said second guard field are selected such that those parts of said first guard field and of said second guard field which do not overlap each other have a predetermined minimum length."

The Examiner now indicates that this limitation is disclosed in Nishiuchi et al. and alludes to the overlap discussed in paragraph [0061] of the English translation of Nishiuchi et al. (i.e., EP1128368).

Applicant submits that the Examiner is mistaken. In particular, paragraph [0061] states:

"Thus, it is preferable that the amount of dislocation between the two information layers, which has no effect on the rage of the data signals 32, is not more than the sum of the length of the gap area 33 and that of the guard data area 35, or is not more than the sum of the length of the gap area 34 and that of the guard data area 36."

It should be apparent from the above that PCT Nishiuchi et al. is referring to the amount of offset between two information layers. However, the noted limitation of claim 2 regards the positioning of the end of a second guard area of a data block in a track and the beginning of a first guard area of succeeding data block in said track, in which both data blocks occur in the same information layer. It appears that the Examiner is focusing on the

environment of the invention, i.e., a multi-layer record carrier, and is overlooking the limitations of the claim element, i.e., "in at least an upper information layer of said at least two substantially parallel information layers".

Applicant submits that this feature of the invention is neither shown nor suggested by Nishiuchi et al.

(3) Firstly, Applicant would like to note that it is unclear whether the Examiner is rejecting claim 3 based on, in part, U.S. Patent 6,344,939 to Oguro or U.S. Patent 5,724,474 to Oguro et al., in that in the rejection, the Examiner mentions both Oguro and Oguro et al.

The Oguro patent discloses digital audio channels with multilingual indication, in which, in discussing Fig. 6, Oguro states "FIG. 6 is a diagram of an IT1 area. As shown in FIG. 6, the IT1 area includes a preamble, a Start Sync Block Area (SSA), a Track Information Area (TIA), and a postamble."

Oguro et al. discloses a digital recording and reproducing apparatus and index recording method, in which, in Fig. 4, audio signal data structure is depicted which includes a preamble of 500 bits, an audio data area, and a postamble of 550 bits.

Applicant submits that it is unclear how the preamble and postamble of either Oguro or Oguro et al. relate to the limitation of claim 3, i.e., "wherein a predetermined preamble pattern is written between said first guard field and said data block, and a

predetermined postamble pattern is written between said data block and said second guard field".

Notwithstanding the above, Applicant submits that neither Oguro nor Oguro et al. supply that which is missing from Satoh et al. and Ide et al., i.e., "in at least an upper information layer of said at least two substantially parallel information layers, said first and second guard fields have lengths such that an end position of said second guard field of a preceding data block in a track is located within an area of said first guard field of a succeeding data block in said track".

(4) The Saito et al. patent discloses header information of information signal recording and reproducing method and apparatus therefor, in which dummy data is inserted in appropriate fields to ensure proper synchronization.

Claim 5 claims "wherein said first and said second guard fields contain dummy data for overwriting previously recorded data".

However, Applicant submits that Saito et al. does not supply that which is missing from Satoh et al. and Ide et al., i.e., "in at least an upper information layer of said at least two substantially parallel information layers, said first and second guard fields have lengths such that an end position of said second guard field of a preceding data block in a track is located within an area of said first guard field of a succeeding data block in said track".

In view of the above, Applicant believes that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicant believes that this application, containing claims 1-8, 11-19, claims 20-24 (withdrawn), 25 and 26, is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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